# Mark scheme

## Histograms

Mathematics 0580 · Questions from Paper 2 and Paper 4

Total marks

**36**

**MARKS FOR EACH QUESTION**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 9 | **36** |

**Question 1** **[2]**

| | | | |
|---|---|---|---|
| **1** | $u = 24(.0)$, $v = 0.6$ | **2** | **B1** each |

**Question 2** **[2]**

| | | | | |
|---|---|---|---|---|
| **2** | 40 | 6 | **2** | **B1** for one correct |

**Question 3** **[2]**

| | | | |
|---|---|---|---|
| **3** | 15 and 22 | **2** | **M1** for 1.5 × 10 or 1.1 × 20 |

**Question 4** **[2]**

| | | | |
|---|---|---|---|
| **4** | 10 | **2** | **M1** for $\frac{7.5}{18 \div 6}$ oe or better<br><br>or [frequency densities] 3 and 4<br><br>or 45 and $4h$<br>or 45 and 40 |

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**Question 5** **[3]**

| | | | |
|---|---|---|---|
| **5**(a) | 40 | **1** | |
| **5**(b) | Correct column, from 2 to 5 and height 34 | **2** | **M1** for $\frac{102}{5-2}$ |

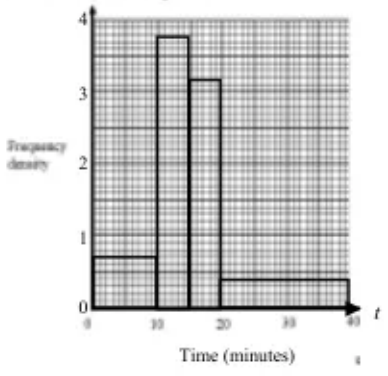
**Question 6** **[4]**

| | | | |
|---|---|---|---|
| **6 (a)** | 240 | **2** | **M1** for any three pairs of products from $2.5 \times 12$, $2.5 \times 26$, $5 \times 15$, $5 \times 10$, $10 \times 2$ |
| **(b)** | 29.2 or 29.16 to 29.17 | **2** | **M1** for $(5 \times 10 + 10 \times 2)$ / *their* (a)<br>or<br>for their total of the bars above 10 minutes ÷ *their* (a) |

**Question 7** **[4]**

| | | | |
|---|---|---|---|
| **7** | 1 3.5 1 | **4** | **B3** for 2 correct<br>**B2** for 1 correct<br>or **M1** for 2, 7, […] and 2 seen [FDs] |

**Question 8** **[4]**

| | | | |
|---|---|---|---|
| **8**(a) | $10 [< t \leqslant] 15$ | **1** | |
| **8**(b) | Correct histogram<br> | **3** | **B1** for each correct block<br>If 0 scored, **SC1** for correct frequency densities 3.8, 3.2, 0.4 soi by correct heights |

**Question 9** **[4]**

| | | | |
|---|---|---|---|
| **9**(a) | 14<br>37<br>24 | **3** | **B1** for each correct answer |
| **9**(b) | 6 | **1** | |

**Question 10** **[9]**

| | | | |
|---|---|---|---|
| **10 (a) (i)** | 316 | **4** | **M1** for 100, 250, 325, 375, 450 soi<br><br>**M1** for $\Sigma fm$ with $m$'s in intervals including boundaries [15800]<br><br>**M1** (dep on 2nd **M1**) for *their* $\Sigma fm \div 50$ |
| **(ii)** | Three correct blocks with heights 0.09, 0.36, 0.24 with correct widths and no gaps | **3** | **B2** for two correct blocks<br>or<br>**B1** for one correct block or three correct frequency densities soi |
| **(b)** | Students have a greater range of estimates oe | **B1** | |
| | [On average] adults estimated a greater mass oe | **B1** | |

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